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TS 1408C L A I M S

1. A sparger system for use in a reactor, the sparger system comprising a gas outlet for passing gas into the reactor, and a gas distribution system to supply the gas to the outlet, wherein the gas distribution system feeding a sparger with gas to be ejected from the gas outlet is disposed above the sparger outlet in the system, wherein the distance between the sparger gas outlets is at least 15 cm below the distribution system, and wherein the distance between the gas outlet and the reactor floor is less than 20 cm.

2. A sparger system as claimed in claim 1, wherein the gas outlet is adapted to eject gas across the floor of the reactor.

3. A sparger system as claimed in claim 1 or claim 2, wherein the sparger outlet is located at the end of the sparger, which is in turn located at the end of a distribution conduit feeding the gas to the sparger.

4. A sparger system as claimed in any preceding claim, wherein the distance between the gas outlet and the reactor floor is less than 10 cm and/or the sparger outlets are at least 30 cm below the distribution system.

5. A sparger system as claimed in any preceding claim, wherein the gas outlet incorporates a flow controlling means to regulate the speed of the gas jet through the outlet.

6. A sparger system as claimed in claim 5, wherein the flow controlling means is a Venturi-type orifice, preferably the sparger has a shroud pipe to limit the injection velocity of the gas.

AMENDED SHEET